

SUMMER SESSION COUNTS SEVERAL TIGER ATHLETES

Sixteen prominent Tiger athletes are in Columbia this summer. This list includes both past and present representatives of the Black and Gold and includes members of four teams—football, baseball, track and tennis. Three leaders of 1917 teams are among those in Columbia.

Most of these athletes are attending the Summer Session, in which part of their time is being devoted to the study of athletics. None, however, is receiving any training in his own line. A ruling of the Valley Conference prohibits official training in several of the various sports until a stated date. This alone would keep these men from receiving actual coaching.

Bob Simpson, holder of the world's record in the high hurdles and leader of the 1917 track team, is here. Simpson is one of the few athletes not attending the Summer Session. He is working at the shoe factory in the morning and taking light workouts in the afternoons. "Pat" Murphy, distance man, captain of the 1915 track team, is doing work in the Summer Session. Another well-known Missouri track star attending the University is J. Patrick Nicholson, who made the trip to the 1912 Olympic games as a member of the American team. "Nick" is not active in athletics at present, at least as far as par-

ticipation is included. He is taking work in the athletic course.

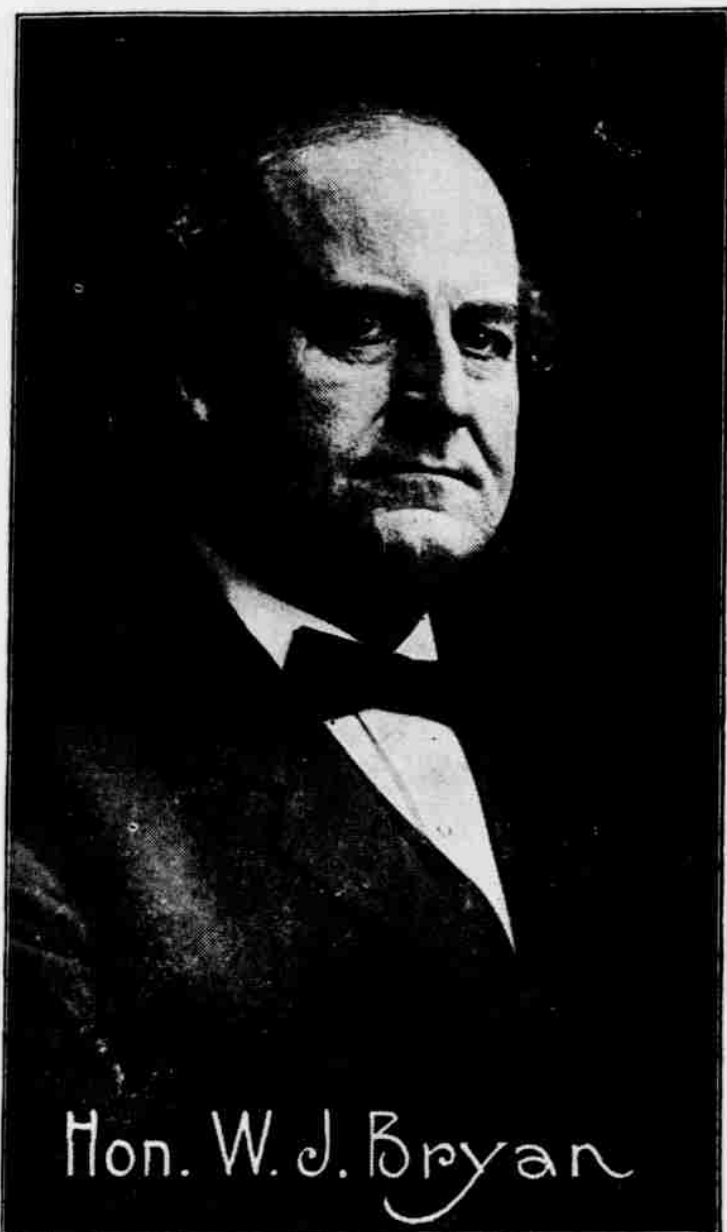
Niederp, a 440 man and a member of the relay team, is another M man in school. Jay Minton, who runs the half mile, is also here. The array of track stars ends with Radford Pittam. This Kansas City youth established a name for himself in track athletics last year. He is attending the Summer Session. Pittam is active in golf and made the trip last week with the Columbia golfers who went to Jefferson City.

Dippold, Davis and Taylor are members of the Tiger baseball team who are in Columbia this summer. George Bryant, who made an enviable record as pitcher last year, was here for the first part of the summer, but received an offer from the Hannibal team of the Three-Eye League and left Columbia. Taylor is acting manager of the Columbia Browns, while Dippold is the leading slugger on the same team. Davis is holding down third base.

Lansing, 1916 leader of the football team, heads the list of football men in school. Van Dyne, guard, Rutledge, quarterback, and Pittam, halfback, are three other letter men who are in Columbia this summer.

The captain of the tennis team, J. F. Loomis, is attending the Summer Session.

DREW A BIG CHAUTAUQUA CROWD



Famous Nebraskan, former Secretary of State, who spoke at the Columbia Chautauqua last night.

STUDY OF STARS POPULAR AT THE OBSERVATORY, TOO

"Although a star, when seen through a telescope, looks only like a speck of light," said Prof. R. H. Baker of Laws Observatory, "still from its variation in brilliancy we are able to learn much."

A study is now being made at the Laws Observatory, by means of photographs, of a group of stars known as eclipsing variables. So far as known this is the most accurate way of studying the stars, according to Professor Baker. The Laws Observatory Bulletin No. 24, entitled "Investigations in Extrafocal Photometry," has just been issued. The authors are Professor Baker and Miss Edith E. Cummings, assistant in astronomy. This bulletin is a general introduction to a series of papers which will be printed pertaining to the group of stars now being studied.

Eclipsing variable stars mystified early astronomers because they "winked" or changed in brightness at regular times. It is now known that a star of this type fluctuates because of a darker companion star going around it, which eclipses it at regular intervals.

"These stars are of particular interest to astronomers," said Professor Baker, "because their light variation makes possible an almost complete knowledge of the two stars composing

the system. From the study of this variation we are able to determine the distance the two stars are apart, their size, shape, composition and the like. We find that many of these stars are egg-shaped. In one system studied here each component star is about one and one-half times as large as the sun and is composed of a gaseous substance with a density less than that of water."

Professor Baker and Miss Cummings have selected twelve of these variable stars for thorough study. They began this study two years ago and now have three bulletins in press containing complete information concerning three of these stars.

The photographic plates are taken with a five-inch camera, attached to the telescope. The density of the impression made on the plate by a star varies according to the brilliancy of the star. This makes it possible to detect its changing magnitude.

For the complete study of one star fifty plates are required, each plate being exposed from an hour to an hour and a half. On each set of plates more than ten thousand individual measurements are made. The plates are generally taken during the summer, and the measurements made during the winter. It is estimated that two or three years more will be required to complete the program.

PREDICTS COTTONLESS GERMANY

Military Opinion Holds Bagdad Will Be War's Decisive Battle.

LONDON, July 15.—With British and Russian forces converging on Bagdad, military experts pointed out here today that the fall of the great Turkish stronghold probably will follow one of the most decisive battles of the war.

The reason is cotton. Far more important, says the experts, than the encircling of the Turco-German divisions in the middle reaches of the Tigris is the fact that for months since American cotton has been denied to Germany the Bagdad region has been the chief source of cotton for the German arsenal.

Cotton from this district, probably the last avenue to Germany open to this vital necessity for Tuetonic explosives, has been steadily crawling over the Bagdad railway since the British blockade observed American cotton as contraband.

It is the opinion here that Germany will order the Turks to hold Bagdad at all costs and probably will send large numbers of men to help the Sultan's fighters. The point is declared, from the German standpoint, to be one of the most vital of the war.

With the Tigris floods abated, an active and relentless Anglo-Russian campaign against ancient Bagdad is believed to have already begun.

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ARMY COSTS \$10,000,000 A MONTH

Estimates of Border Work Made by War Department.

By United Press. WASHINGTON, July 14.—It is costing the United States \$10,000,000 a month to maintain its military establishment on the Mexican border. Estimates were made today at the War Department, giving these figures.

Under ordinary conditions it takes \$310 a year to feed, clothe and pay a private. Two hundred and fifty dollars additional goes for ammunition, camp sites, water system and the like. Maintenance of the hospital corps is estimated to cost at least \$60 a man.

The National Guard concentration is costing the government millions in railroad fares and extraordinary expenditures. Hundreds of motor trucks have been purchased for the Mexican expedition.

SEXTON ROAD IS BEING PAVED

About 2,000 Feet to Be Completed This Week, Says Contractor.

About 2,000 feet of the paving of Sexton road will be completed this week, according to J. N. Fellows, who is furnishing the crushed rock. Workmen are now spreading out the crushed rock, which is being rolled immediately afterward.

The asphalt coating has yet to be put on. The remainder of the mile, 3,280 feet, will be finished in September. Work began on the paving in May.

M. U. EXTENSION BULLETIN TAKES UP COUNTRY ROADS

The average country road requires many culvert structures, and frequently the cost for maintaining them takes a large part of the available road funds, leaving but little for other work. It is therefore important that the culvert be built in such a manner so as to reduce this maintenance cost as much as possible.

According to a bulletin being issued by the Extension Division of the University on "Country Roads," the construction of cheap perishable culverts is usually expensive in the long run. Ordinary wooden culverts are no longer desirable, as the life of such culverts is not more than three or four years, and while in use they are a continual annoyance and expense.

Vitrified-clay pipe culverts are satisfactory, where openings larger than 12 to 24 inches in diameter are not needed, and the cost is comparatively small. Such culverts, however, cannot safely be used where they are directly exposed to the shocks of traffic. They should be protected by at

least two feet of filling, and the roadway graded smoothly that a vehicle may pass without shock over the culvert.

Corrugated iron culverts are more desirable than vitrified-clay pipes, as they resist shocks of traffic better, are easier to handle and cost approximately the same. The life of such culverts depends upon the ability of the metal to resist rust. Pipes of nearly pure iron have given good results.

Concrete is, in most cases, the best material for use in the construction of highway culverts. When properly constructed, these culverts last indefinitely, and are usually lower in cost than those made from other durable materials. In the construction of concrete culverts it is essential that good materials be used. The concrete should consist of a proper mixture of portland cement, sand and broken stone or gravel. The quality of the concrete depends largely upon the thoroughness of mixing, and should be placed in the forms immediately after the mixing is done.

BANK GETS OUT ON SIDEWALK

City Council Grants Right to Boone County National.

The request of R. B. Price, Jr., representing the Boone County National Bank, for the use of seven and one-half inches of sidewalk space on Eighth street to build projecting water breaks on the new bank building which is being erected at Eighth and Broadway was granted at the adjourned meeting of the City Council Friday night. Councilman Lee Walker cast the only negative vote.

John Silver, acting city engineer, resigned in order that his salary might be raised. Mr. Silver's salary was raised from \$70 to \$100 a month.

Garth Clinkscales was awarded the contracts for the paving of East Walnut street from Moss avenue to Melbourne street and for the laying of a sewage system in the section including Edgewood, McBaine and Garth avenues and Ash street.

The council ordered City Engineer Silver to present the specifications for the paving of West Broadway at the next meeting.

Missourian want ad department, phone 55.

Daily Market Report

EAST ST. LOUIS, Ill., July 15.—CATTLE RECEIPTS—550, including 125 Texans. Market steady. Native beef steers \$7.20@8.10. Yearling steers and heifers \$5.50@8.10. Cows \$5.00@8.25. Stockers and feeders \$5.00@8.50. Calves \$6.00@8.15. Texas steers \$5.50@8.90. Cows and heifers \$5.00@8.80.

HOG RECEIPTS—7,000. Market 5 to 10 lower. Mixed and butchers \$9.50@9.90. Good and heavy \$9.50@9.90. Rough \$9.40@9.55. Light \$9.70@9.85. Pigs \$8.75@9.50. Bulk \$9.50@9.90.

SHEEP RECEIPTS—2,000. Market steady. Sheep and ewes \$4.00@5.00. Lambs \$4.00@5.00. Wethers \$6.00@8.00. Spring lambs \$7.00@8.00.

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